

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A pneumatic plate element (1) comprising: having
at least one hollow body (3) made from a flexible material that is gas-tight and capable of sustaining loads from a pressure media; also having
at least two compression/tension elements (2) surrounding the at least one hollow body (3) for absorbing compression and tensile forces, wherein the each end of each compression/tension element of the at least two compression/tension elements element (2) is connected non-positively with the an end of another compression/tension element of the at least two compression/tension elements; (2),
characterised in that wherein the at least one hollow body (3) is located between the at least two compression/tension elements; (2) connected by their ends,
wherein at least two of the at least two compression/tension elements (2) are also connected to each other via at least one pure tensile element; (4), and
wherein, responsive to application of a load to the pneumatic plate element, a first compression/tension element of the at least two compression/tension elements is compressed and a second compression/tension element of the at least two compression/tension elements is tensioned.
~~this tensile element is (4) may be prestressed via the at least one hollow body (3) that is under pressure loading.~~
2. (Currently Amended) The pneumatic plate element of (1) in accordance with claim 1, wherein a characterised in that the prestressing force in the at least one pure tensile element (4) is greater than a the stabilising force that is required to prevent buckling of the at least two compression/tension elements element (2) that is loaded with axial pressure.

3. (Currently Amended) The pneumatic plate element of (1) in accordance with claim 2, wherein characterised in that a first compression/tension element of the at least two compression/tension element elements (2) that are always subjected to axial pressure is are constructed as purely a compression element elements (7) and a second compression/tension element of the at least two compression/tension elements (2) that are always subjected to axial tension are is constructed as purely a tensile element elements (8).

4. (Currently Amended) The pneumatic plate element (1) in accordance with either of claim 1 claims 2 or 3, characterised in that wherein the prestressed at least one pure tension element elements [[4]] pass passes through the at least one hollow body (3).

5. (Currently Amended) The pneumatic plate element (1) in accordance with either of claim 1 claims 2 or 3, characterised in that it includes wherein the at least one pure prestressed tensile element elements (4) that both pass through the hollow body (3) and also pass passes around round the an outside region of the at least one hollow body thereof.

6. (Currently Amended) The pneumatic plate element (1) in accordance with either of claim 1 claims 4 or 5, characterised in that wherein the at least one pure tensile element (4) passes through the at least one hollow body (3) without non-positive connection between a the membrane (9) and the at least one pure tensile element (4) in the a direction of this the at least one pure tensile element (4).

7. (Currently Amended) The pneumatic plate element (1) in accordance with of claim 6, characterised in that wherein:

the at least one pure tensile element (4) is guided through an eyelet (11) incorporated in the membrane (9);, wherein this

the eyelet (11) is sealed in a gas-tight manner via a seal (12) lying arranged to be flush with the at least one pure tensile element (4);, and wherein this

the eyelet and the seal are (11) is axially displaceable on the at least one pure tensile element (4) together with seal (12).

8. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim 1 claims 4 to 6, characterised in that wherein the at least one pure tensile element elements (4) is are disposed within guided through a plurality of gas-tight channels (5) in the at least one hollow body (3).~~

9. (Currently Amended) The pneumatic plate element (1) ~~in accordance with of claim 8, characterised in that wherein the plurality of gas-tight channels channel (5) is formed by comprise:~~

~~two endpieces (13) that are connected to each other by a tube (19) and that penetrates can penetrate the at least one hollow body (3) through a plurality of apertures in a the membrane (9), and~~

~~wherein the two endpieces (13) can subsequently be attached to the membrane (9) by at least one of clamping, bonding or welding, and thus together with the tube (19) form a gas-tight channel (5) through the hollow body (3).~~

10. (Currently Amended) The pneumatic plate element (1) ~~in accordance with of claim 9, characterised in that wherein the tube comprises (19) is formed by a hose (14) that is secured in a gas-tight manner to the two endpieces (13).~~

11. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim claims 1 to 10, characterised in that it has comprising at least two hollow bodies (3) arranged essentially substantially parallel in a the direction of the at least two compression/tension elements (2).~~

12. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim claims 1 to 10, characterised in that it has comprising at least two hollow bodies (3) arranged essentially substantially parallel to each other transverse to a the direction of the at least two compression/tension elements (2).~~

13. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim~~
~~claims 1 to 12, characterised in that wherein:~~

the pneumatic plate element (1) is separable into at least two parts in a the direction of the
at least two compression/tension elements (2), and wherein the

partial sections of the at least two compression/tension elements (2) can be are connected
to each other in a detachable, flexurally rigid and non-positive manner via a plurality of
connectors (20).

14. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim~~
~~claims 1 to 13, characterised in that it has comprising~~ at least two pairs of compression/tension
elements (2) that are arranged parallel to each other and are connected to each other at
repective the ends.

15. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim~~
~~claims 1 to 14, characterised in that it has comprising~~ a plurality of plate-shaped
compression/tension elements (2), the plurality of plate-shaped compression/tension elements
comprising cross sections of which vary over the a length of the plurality of plate-shaped
compression/tension elements thereof.

16. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim~~
~~claims 1 to 15, characterised in that comprising a plurality of cross-members (15) that extend~~
extending essentially transversely between the at least two compression/tension elements (2) or
wind braces (16) that extend essentially diagonally between the compression/tension elements
(2) are provided for reinforcement.

17. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim~~
~~claims 1 to 16, characterised in that wherein~~ at least one of the at least two compression/tension
elements element (2) tensile element is constructed as a panel with a plurality of cutouts.

18. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim~~ claims 1 to 17, ~~characterised in that wherein pairs of the at least two~~ compression/tension elements (2) connected at to each other at ~~the respective~~ the ends thereof are arranged ~~to such~~ that their ends form a polygon.

19. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim~~ claims 1 to 18, ~~characterised in that wherein~~ at least one horizontal intermediate membrane is drawn inside the at least one hollow body (3), ~~which increases the at least one horizontal intermediate membrane is operable to increase an the insulating property of the at least one hollow body (3) and reduce reduces the a~~ vertical transport of heat by convection.

20. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim~~ claims 1 to 19, ~~characterised in that wherein the at least two~~ compression/tension elements (2) are constructed as a plurality of two-dimensional, polygonal compression/tension lattices (23), ~~and these such compression/tension lattices comprising (23) in turn consist of several a plurality of~~ element sections (21) that are joined in non-positive manner by a plurality of connections (22).

21. (Currently Amended) The pneumatic plate element of (1) in accordance with claim 20, ~~characterised in that wherein at least two of the plurality of a pair of~~ compression/tension lattices (23) ~~is are~~ connected to itself via the at least one pure tensile element elements (4) at least at all ~~of the~~ connections (22).

22. (Currently Amended) The pneumatic plate element (1) ~~in accordance with either of claim~~ claims 20 or 21, ~~characterised in that wherein the plurality of two-dimensional, polygonal~~ element sections (21) and the connections (22) are integrated in ~~the a~~ membrane (9) of the at least one hollow body (3).

23. (Currently Amended) The pneumatic plate element (1) ~~in accordance with of~~ claim 22, ~~characterised in that wherein the plurality of element sections (21) are made from a plurality of~~ fibre-reinforced, flexible plastic strips.

24. (Currently Amended) The pneumatic plate element (1) ~~in accordance with either of claim claims 22 or 23, characterised in that wherein the pneumatic~~ the plate element (1) is constructed so that it can be ~~to allow folding folded or rolling rolled up~~ in one piece together with ~~a the~~ membrane of the ~~at least one~~ hollow body (3) and the plurality of element sections (21).

25. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim claims 20 to 24, characterised in that wherein the plurality of~~ element sections (21) that are only subjected to tensile stresses are constructed as purely tensile elements.

26. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim claims 1 to 25, characterised in that wherein the at least one hollow body (3) is divided by a plurality of gas-tight partition walls into a plurality of several chambers that are may be pressurized loaded with pressure~~ independently of one another.

27. (Currently Amended) The pneumatic plate element (1) ~~in accordance with any of claim claims 20 to 26, characterised in that wherein a the plurality of two-dimensional, polygonal compression/tension lattices lattice is are~~ constructed from ~~different~~ a plurality of element sections (21) of differing shapes and strengths.

28. (Currently Amended) A ~~The pneumatic support structure consisting of plate element elements (1) in accordance with any of claim~~ claims 1 to 27, characterised in that ~~wherein a plurality of several pneumatic plate elements (1) are joined to form essentially two-dimensional or three-dimensional structures.~~

29. (Currently Amended) ~~Use of several The pneumatic plate element elements (1) in accordance with any of claim~~ claims 1, ~~to 19~~ wherein a plurality of pneumatic plate elements are utilized in combination to form larger, connected two-dimensional structures.

30. (Currently Amended) ~~Use of The pneumatic plate element elements (1) in accordance with any of claim~~ claims 1, ~~to 20~~ wherein the pneumatic plate element is utilized as a roof.

31. (Currently Amended) ~~Use of The pneumatic plate element elements (1) in accordance with any of claim claims 1, to 20 wherein the pneumatic plate element is utilized as a bridge.~~

32. (Currently Amended) ~~Use of The pneumatic plate element elements (1) in accordance with any of claim claims 1, to 20 wherein the pneumatic plate element is utilized as a floating rigid container.~~

33. (Currently Amended) ~~Use of The pneumatic plate element elements (1) in accordance with any of claim claims 1, to 20 in which wherein the at least one hollow body (3) is filled with a liquid and used as a floating, rigid container for transport or storage.~~

34. (Currently Amended) ~~Use of The pneumatic plate element elements (1) in accordance with any of claim claims 1, to 20 in which wherein the at least one hollow body (3) is loaded with a gas that is lighter than air and used as a floating or semi-floating roof.~~

35. (New) The pneumatic plate element of claim 1, wherein the at least one pure tensile element is pre-stressed via the at least one hollow body under pressure loading.

36. (New) The pneumatic plate element of claim 1, comprising a plurality of wind braces extending essentially diagonally between the at least two compression/tension elements.